LineUp With Math™ Alignment
Essential Academic Learning Requirements
And Grade Level Expectations

EALR 1: The student understands and applies the concepts and procedures of mathematics.

Component 1.1: Understand and apply concepts and procedures from number sense.

NUMBER AND NUMERATION

GLE 1.1.4 Apply understanding of direct and inverse proportion to solve problems..

Evidences of Learning	***LineUp With Math*™ Activities**
▪ Solve problems using direct or inverse *(proportion)* models.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.
▪ Use direct or inverse proportion to determine a number of objects or a measurement in a given situation.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.

ESTIMATION

GLE 1.1.8 Apply estimation strategies to predict or determine the reasonableness of answers in situations involving multi-step computation with rational numbers including whole number powers and square and cube roots.

Evidences of Learning	***LineUp With Math*™ Activities**
▪ Use estimation to predict or to verify the reasonableness of calculated results.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Component 1.2: Understand and apply concepts and procedures from measurement.

PROCEDURES, PRECISION, AND ESTIMATION

GLE 1.2.6 Understand and apply strategies to obtain reasonable measurements at an appropriate level of precision.

Evidences of Learning	***LineUp With Math*™ Activities**
▪ Estimate quantities using derived units of measure (e.g., distance or time using miles per hour, cost using unit cost).	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Component 1.5: Understand and apply concepts and procedures from algebraic sense.

EVALUATING AND SOLVING

GLE 1.5.6 Apply procedures to solve equations and systems of equations..

Evidences of Learning	*LineUp With Math™* Activities
▪ Solve real-world situations involving linear relationships and verify that the solution makes sense in relation to the problem.	--Use an interactive simulator to identify distance, rate, time conflicts in air traffic control problems and resolve the conflicts by varying plane speeds or changing plane routes.

EALR 2: The student uses mathematics to define and solve problems.

Component 2.1: Understand problems.

GLE 2.1.1 Analyze a situation to define a problem.

Evidences of Learning	*LineUp With Math™* Activities
▪ Define the problem.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Component 2.2: Apply strategies to construct solutions.

GLE 2.2.1 Apply strategies, concepts, and procedures to devise a plan to solve the problem.

Evidences of Learning	*LineUp With Math™* Activities
▪ Select and apply appropriate mathematical tools to devise a strategy in a situation.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

GLE 2.2.2 Apply mathematical tools to solve the problem.

Evidences of Learning	*LineUp With Math™* Activities
▪ Implement the plan devised to solve the problem.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
▪ Use mathematics to solve the problem (e.g., use algebra to write equations for the two linear models, solve the system of equations using either symbols or technology).	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
▪ Check the solution to see if it works.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

EALR 3: The student uses mathematical reasoning.

Component 3.2: Make predictions, inferences, conjectures, and draw conclusions.

GLE 3.2.2 Analyze information to draw conclusions and support them using inductive and deductive reasoning.

Evidences of Learning	*LineUp With Math™* Activities
	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

GLE 3.3.2 Analyze thinking and mathematical ideas using models, known facts, patterns, relationships, counter examples, or proportional reasoning.	
Evidences of Learning	***LineUp With Math™* Activities** --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

EALR 4: The student communicates knowledge and understanding in both everyday and mathematical language.	
Component 4.1: Gather information.	
GLE 4.1.2 Synthesize mathematical information for a given purpose from multiple, self-selected sources.	
Evidences of Learning	***LineUp With Math™* Activities** --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts. --Choose and apply a variety of strategies to optimize the solution of air traffic control conflicts.
Component 4.2: Organize, represent, and share information.	
GLE 4.2.1 Analyze mathematical information to organize, clarify, and refine an argument.	
Evidences of Learning	***LineUp With Math™* Activities** --Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.
GLE 4.2.2 Understand how to express ideas and situations using mathematical language and notation.	
Evidences of Learning ▪ Explain how division of measurements produces a derived unit of measurement (e.g., miles traveled divided by hours traveled yields the derived unit [miles per hour]).	***LineUp With Math™* Activities** --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

EALR 5: The student understands how mathematical ideas connect within mathematics, to other subject areas, and to real-life situations.	
Component 5.1: Relate concepts and procedures within mathematics.	
GLE 5.1.1 Apply multiple mathematical concepts and procedures in a given problem or situation.	
Evidences of Learning ▪ Estimate derived units of measure (e.g., miles per hour, people/year, grams/cubic centimeters).	***LineUp With Math™* Activities** --Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Component 5.2: Relate mathematical concepts procedures to other disciplines.	
GLE 5.2.1 Analyze mathematical patterns and ideas to extend mathematical thinking and modeling in other disciplines.	
Evidences of Learning ▪ Justify a prediction or an inference based on a set of data.	***LineUp With Math™*** **Activities** --Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.
Component 5.3: Relate mathematical concepts procedures to real-world situations.	
GLE 5.3.1 Understand situations in which mathematics can be used to solve problems with local, national, or international implications.	
Evidences of Learning ▪ Represent situations on a coordinate grid or describe the location of points that satisfy given conditions,	***LineUp With Math™*** **Activities** - Predict and plot the relative motion of two or more airplanes on given paths.
GLE 5.3.2 Understand the mathematical knowledge and training requirements for occupational/career areas of interest.	
Evidences of Learning ▪ Select a career and research the mathematics necessary to get the job and the mathematics used in the job.	***LineUp With Math™*** **Activities** --Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.